UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte PAWAN SETH

Appeal No. 2006-0139
Application No. 09/583,228

ON BRIEF

Before SCHEINER, MILLS, and GRIMES, Administrative Patent Judges.

MILLS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-4, 6, 9-14, 19-22 and 24-50.

Claims 1 and 26 read as follows:

1. A tablet composition free of food effect comprising:
a) a core comprising from 20 to 80% by weight of verapamil and from 10 to 80% by weight of a gelling agent; and
b) a coating comprising, based on the weight of the coating, from 30 to 80% of a gastroresistant polymer, and from 10 to 40% of a hydrophilic silicon dioxide, wherein the gastroresistant polymer will dissolve in the intestines while withstanding the acidic medium of the stomach and duodenum, and as the gastroresistant polymer dissolves, verapamil is released in the intestines without the influence of food intake.

26. A tablet composition free of food effect comprising:

a) a core comprising from 20 to 80% by weight of verapamil and from 10 to 80% by weight of a gelling agent;

b) an intermediate coating; and

c) a coating comprising, based on the weight of the coating, from 30 to 80% of a gastroresistant polymer, and from 10 to 40% of a hydrophilic silicon dioxide, wherein the gastroresistant polymer will dissolve in the intestines while withstanding the acidic medium of the stomach and duodenum, and as the gastroresistant polymer dissolves, verapamil is released in the intestines without the influence of food intake.

The prior art references cited by the examiner are:

Morella et al. (Morella)	5,378,474	Jan. 3, 1995

Grounds of Rejection

Claims 1-4, 6, 9-14, 19-22 and 24-50 stand rejected under 35 U.S.C. § 103(a) over Morella.

We affirm this rejection.

Claim Grouping

Appellant argues claims 26-50 separately from the other rejected claims. Therefore, we select claims 1 and 26 as representative of the rejected claims. 37 C.F.R. § 41.37(c)(1)(vii) (September 13, 2004).

DISCUSSION

Obviousness

Claims 1-4, 6, 9-14, 19-22 and 24-50 stand rejected under 35 U.S.C. § 103(a) over Morella.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. In re Bell, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993). An obviousness analysis requires that the prior art both suggest the claimed subject matter and reveal a reasonable expectation of success to one reasonably skilled in the art. In re Vaeck, 947 F.2d 488, 493, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991). With this as background, we analyze the prior art applied by the examiner in the rejection of the claims on appeal.

According to the examiner (Answer, pages 3-4)

> Morella et al. ... teaches a sustained release pharmaceutical composition having a core element containing an antihypertensive agent such as Verapamil Hydrochloride, binding agent, such as PVD, modified celluloses, and other well known pharmaceutical carrier and excipients; a coating comprising a methacrylic polymer (1-30% wt., soluble at a pH from 6-7.5 in the intestines), hydroxypropyl methylcellulose (4-20% wt.), polyethylene glycol (15-35% wt.) and a filler such as silicon dioxide (4-30% wt.), see, particularly, claims 1, 2, 7 and 9 as well as Col. 4, line 24. column 11, lines 3-33. Morella ... also teaches that the active ingredient in the pharmaceutical composition reaches its maximum concentration between about 4 and about 30 hours, col. 24, claim 1 and that the bioavailability of the active agents in the pharmaceutical pellet is not compromised by food, col. 7, lines 34-40. Morella discloses at least one polymer which is substantially insoluble at acidic pH (i.e., that of the stomach) but at least partially soluble at a less acidic to basic pH (i.e., the pH of the intestine), see col. 6, lines 43-52[,] col. 7[,] lines 34-62 in particular.
>
> Morella ... does not teach the particular composition containing the specific ingredients in the amounts herein.

The examiner concludes (Answer, page 4)

> It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the particular composition containing the specific ingredients herein in amounts herein.
>
> One of ordinary skill in the art would have been motivated to make the composition [c]laimed herein since a substantially similar composition is taught in the prior art.

We find the examiner has provided sufficient evidence to support a prima facie case of obviousness. In particular, with respect to claim 1, Morella describes a core element which contains a drug and further includes a filler of as much as 10% by weight of hydroxypropylmethyl cellulose[1] or polyvinylpyrollidone. Morella, column 11, lines 24-50. Morella further describes a coating layer including an enteric polymer such as a methacrylic acid copolymer or "a cellulose" (column 9, lines 17-31) and 0-75% of a filler such as silicon dioxide (column 10, lines 4-9). The pharmaceutical pellet of Morella may be in tableted form. Column 13, lines 32-34.

We further note that appellant's claims are broad and are not limited to a specific dissolution profile. Morella discloses that the desired dissolution profile of the drug can be selected by adjusting the amounts of ingredients in the coating layers. Morella discloses (Column 8, line 63 to column 9, line 1) that "[t]he rate of dissolution at highly acidic pH of the hybrid core coating will depend on the amount of the at least one

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1 Specification, page 3, lists hydroxypropylmethylcellulose as a gelling agent.

partially acid soluble component, the pH dependent and pH independent polymers, and the thickness of the coating." "Once a minimum amount of the at least partially acid soluble component, and/or the maximum thickness of the coating to achieve the minimum dissolution profile at an highly acidic pH has been established, then it is simply a matter of design choice to adjust the composition and /or thickness of the coating as desired." Column 9, lines 5-10. In addition, Morella further describes that, "[i]t has been found that the dissolution rate of the soluble drug at various pH's can be modified at will by altering the ratio of polymers." Column 9, lines 11-14. Therefore, we agree with the examiner that it would have been obvious to one of ordinary skill in the art to adjust the thickness and amounts of the coatings described in Morella to achieve a desired dissolution profile.

Moreover, with respect to claim 26, Morella particularly describes a hybrid coating having more than one layer, such as a layer soluble at less acidic pH and a layer soluble at acidic pH. Column 8, lines 34-67. Thus, Morella evidences that it is within the skill of one of ordinary skill in the art to adjust the drug dissolution rate based upon the coating thickness and amounts of coating ingredients, and adjust the location of drug dissolution, either the stomach or intestine, based on the pH of the tablet coating.

Where the prior art, as here, gives reason or motivation to make the claimed invention, the burden then falls on an appellant to rebut that prima facie case. Such rebuttal or argument can consist of any other argument or presentation of evidence that is pertinent. In re Dillon, 919 F.2d 688, 692-93, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (en banc).

In response to the examiner's prima facie case of obviousness, appellant contends that Morella describes additional components in the core coating and that, "[t]here is no suggestion nor any motivation to modify this composition and eliminate the other two components." Brief, page 10. However, in the present case appellant's claims do not limit coating components to those recited in the claim due to the open ended language "comprising", as would be the case if the claimed components were limited by the use of a transitional phrase such as "consisting of" or possibly, "consisting essentially of." Thus appellant's claim 1, as interpreted in accordance with claim interpretation precedent, reads on the prior art coated tablets disclosed in Morella.

Appellant additionally argues that, "the claims recite that the coating includes from 30 to 80% of a gastroresistant polymer soluble at a pH above 5.5. On the other hand, Morella teaches an analogous component at a level of 1-30%, preferably 2-20%." Brief, page 11. We are not persuaded by this argument. Appellant mischaracterizes the teachings of Morella. In particular, Morella teaches "[t]he at least one enteric

polymer may be present in the coating in an amount of from approximately 1 to 60% by weight..." and thus is not limited to the preferred embodiment of 1-30% as argued by appellant. Column 9, line 27-30.

As evidence of non-obviousness, appellant also proffers the Declaration of Dr. Seth. The Declaration compares the dissolution profile of a selected tablet and coating of the claimed invention with the tablet and coating of selected example 3 of Morella. The Declarant argues at numbered paragraph 9 of the Declaration, that the evidence shows that, the "compositions of Morella and of the invention are different and will exhibit different behaviour in the gastrointestinal (GI) tract," and the "coated formulation of the invention has different profiles at different pH." Id., at paragraph 10.

We do not find appellant's Declaration evidence to be convincing or to overcome the rejection before us. To begin, appellant's Declaration compares the tablet and coating of Morella example 3, an example in which the components were selected to "illustrate a prolongation of release" of the active agent. Col. 16, line 8-12. Example 3, Table 5 of Morella shows that at pH 7.5, at 180 minutes, 28.12 mg of drug was released. However, the teachings of Morella are not limited solely to those of example 3. For example, if appellant had compared the dissolution profile of the claimed tablet with that of Morella example 1 (Table 2, pH 7.5, at 180 minutes) a faster release rate of 35.39 mg of drug would have been found. Similarly, example 2 (Table 4, pH 7.5 at 180 and 240 minutes) shows a much greater release of 33.66 mg of drug and 42.7 mg of drug, respectively.

As the other embodiments of Morella also reflect relevant prior art teachings, we agree with the examiner that the Declaration is not sufficiently comparative with either the full breadth of the teachings of Morella, or indicative of the full scope of the pending claims. We find the Board's determination in Ex parte Winters[2] to be instructive here. In Winters we stated:

> ... appellant is not required to test each and every species within the scope of the appealed claims and compare same with the closest prior art species. Rather patentability is established by a showing of unexpected superiority for representative compounds within the scope of the appealed claims. What is representative is a factual question which is decided on a case-by-case basis.

11 USPQ2d at 1388. We do not find appellant has provided a sufficient showing of nonobviousness or unexpected results, commensurate with the pending claim scope.

In addition, appellant is reminded that when relying on comparative testing, the most effective comparison is between the claimed invention and the closest prior art. See, In re Burckel, 592 F.2d 1175, 201 USPQ 67 (CCPA 1979); In re Merchant, 575 F.2d 865, 197 USPQ 785 (CCPA 1978); Ex parte Beck, 9 USPQ2d 2000, 2002 (Bd. Pat. App. & Int. 1987) ("comparative evidence, to be effective, must compare the claimed subject matter with the closest prior art"); Ex parte Meyer, 6 USPQ2d 1966, 1968 (Bd. Pat. App. & Int. 1988) ("An applicant relying upon a comparative showing to rebut a prima facie case of obviousness must compare his claimed invention with the

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[2] Ex parte Winters, 11 USPQ2d 1387 (Bd Pat App Int 1989).

closest prior art."). For the reasons indicated above, we do not find the results put forth in the Declaration of Seth to be comparative.

Furthermore, Morella discloses that the dissolution profile of a drug is a result effective variable dependent upon the coating thickness and amounts of ingredients in the coating composition. In In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955), a predecessor of our appellate reviewing court set out the rule that the discovery of an optimum value of a variable in a known process is normally obvious. See also, In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). Our reviewing court has found an exception to this general rule where "the parameter optimized was not recognized to be a result effective variable," In re Antonie, 559 F.2d 618, 621, 195 USPQ 6, 8 (CCPA 1977). Exceptions to this rule have also been found in cases where the results of optimizing a variable, which was known to be result effective, were unexpectedly good. In re Waymouth, 499 F.2d 1273, 1276, 182 USPQ 290, 293 (CCPA 1974). However, neither of these exceptions to the art recognized principles of optimization and result effective variables are found in the present case.

In our view, for the reasons indicated herein, we agree that the examiner has presented a prima facie case of obviousness which has not been convincingly rebutted

by appellant. In view of the above, the rejection of the claims for obviousness in view of Morella is affirmed.

CONCLUSION

The rejection of claims 1-4, 6, 9-14, 19-22 and 24-50 under 35 U.S.C. § 103(a) over Morella is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

Toni R. Scheiner Administrative Patent Judge	)
Demetra J. Mills Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND
Eric Grimes Administrative Patent Judge	) INTERFERENCES

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